



PATENT APPLICATION  
Serial No. 09/506,780<sup>73</sup>  
Atty. Docket No. 1473-991365

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art 1724 :

In re application of :

Andrew EADES et al. :

Serial No. 09/506,780<sup>73</sup> :

Filed February 18, 2000 :

Examiner Peter A. Hruskoci :

BUOYANT MEDIA FLOTATION

Pittsburgh, Pennsylvania  
May 21, 2002

RULE 132 DECLARATION OF JOHN BECKLEY

Commissioner for Patents  
Washington, D.C. 20231

Sir:

I, John BECKLEY, declare as follows:

1. That I, John BECKLEY, was graduated in 1989 from the University of London and have a Bachelor of Science degree in mechanical engineering from the University of London.

2. That I have been an employee of The F.B. Leopold Co., Inc. from 1998 to the present time.

3. That I am familiar with the subject matter of the invention described in the specification of the above-identified application.

4. That I am familiar with the technologies described in U.S. Patent No. 3,224,582 to Iannicelli (hereinafter "Iannicelli") and U.S. Patent No. 3,637,490 to Gardner et al. (hereinafter "Gardner").

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5. That a person skilled in the art would not have looked to Iannicelli or Gardner for teachings as to the invention for the following reasons:

Both Iannicelli and Gardner teach processes including devices or ports that move or remove solids that settle to the bottom of a flotation tank. Both Iannicelli and Gardner teach a means for removing solids that have settled to the bottom region of the flotation tank: Gardner shows the prior art as making use of a sludge collector belt to direct sludge into a sludge discharge port at the bottom of the flotation tank (Fig. 1). The invention of Gardner makes use of a waste solids collector belt configured so that any solids on the bottom of the flotation tank are swept into the path of a flotation agent and flocculant entering the flotation tank and are borne upwards by flow patterns or by the motion of the waste solids collector belt. In Iannicelli, pulp body that has settled to the bottom portion of a flotation machine is removed through a bottom port. No such device or port is found in the method described in the present application.

The present invention teaches the use of a flocculant. Iannicelli does not teach the use of a flocculant. Compounds of iron, commonly used as flocculants, are the color impurities that are removed by the Iannicelli process. Iannicelli refers to a dark color crude at col. 3, line 75 (0.78%  $\text{Fe}_2\text{O}_3$ , col. 4, line 9); and to a light color crude at col. 4, line 31 (0.34%  $\text{Fe}_2\text{O}_3$ , col. 4, line 37). A process for removing a substance does not suggest the use of that substance as a removal agent.

The Iannicelli method separates impurities in clay from the remainder of the clay (col. 1, lines 26-29). A method for the separation of one solid from another does not suggest a method for the separation of a solid from a liquid.

Iannicelli describes this separation as "a particularly delicate differential separation of desirable from undesirable fractions in clay" (col. 2, lines 8-9). Iannicelli refers at length (col. 1, line 35 - col. 2, line 10) to the choice of accessory particles so as to have

characteristics that render them readily separable from the finely divided materials. Gardner, in contrast, teaches a method for the removal of waste solids from industrial and municipal waste waters. In the Gardner process, the solid material resulting from the separation is waste, and is unlikely to have a homogeneous composition. The mechanism by which particles of such a mixture adhere to the flotation agent in the Gardner process is therefore unlikely to be as finely tuned as the corresponding mechanism in the Iannicelli process, and removal of adhered material from a flotation agent is likely to be more difficult, requiring an energy-intensive process, such as incineration (col. 2, lines 59-62). The suggested use of incineration implies that less strenuous regeneration processes would not produce acceptable results.

Gardner does not teach the recovery of a flotation agent from fluid. Gardner refers only to the recovery of a glass microballoon flotation agent by incineration (col. 2, line 61-62).

Gardner states that glass microballoons are preferable flotation agents for this reason. Gardner provides no guidance for recovery of flotation agents that cannot withstand incineration, and implies that such a process would not be economically feasible (col. 2, lines 59-60).

Iannicelli teaches the addition of petroleum products to the substances to be separated (col. 3, lines 14-17). In both the wastewater treatment process of Gardner and the clarification system of the present invention, the quality of the water produced is a measure of the effectiveness of the process. This is not the case with the Iannicelli process. A wastewater treatment process in which the processed water contains oil is not an effective treatment process. In other water clarification processes, such as the process of the present invention as used for the processing of potable water, the addition of oil is expressly forbidden.

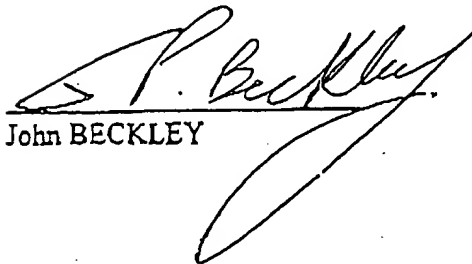
6. That, from the above observations, and based on my knowledge, I conclude that:

The present invention is not obvious over the cited Iannicelli and Gardner patents in view of the present invention's superior effect in the efficient clarification of water through the use of buoyant media flotation.

7. That the undersigned declares further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon;

Further declarant saith not.

Respectfully submitted, this 22 day of MAY 2002



John BECKLEY